AGRICULTURE

Building a Cistern.

If after a cistern has been built in the customary manner with brick and cement a wash is made of clear cement and water, and brushed upon the walls like whitewash, the walls will be found to have been rendered impervious to water. A cistern can be made of cement alone, and if the earth in which it is made is of a solid clayey nature the wall of cement need not be over two inches in thickness. Bricks would have to be used for the arch, but it is better not to make an arch. Cisterns are usually under floors, and if not they can be floored over and the under side lathed and plastered with adamant. It becomes hard as stone, is rot-proof, dirt-proof and moisture-proof. Built in this way a cistern can be made more cheaply, as it does not have to be so deep, and can be larger in diameter. A cistern should always be circular, as it makes the walls stronger and takes less material for a given amount of water stored. Two parts of sand to one of cement are about right.—The Rural New Yorker.

Buckwheat, Rye and Fertility.

The discussion of buckwheat as a feed reminds us to say that it has even a greater value as a fertilizer of the soil, as we demonstrated fully on sandy land that had been reduced to the unprofitable point by too much cropping to wheat; that was several years ago, however. Rye was used in connection with the buckwheat, but the element most needed was secured through the buckwheat, the rye affording some feed during the operation, and helping to put the soil in good mechanical condition. First, winter rye was sown in the fall, pastured then, late, and early in spring. Then allowed to grow until in bloom, when it was plowed under and sown to buckwheat. That, in turn, was plowed under and again sown to winter rye. The following spring red clover was sown in the rye, when an excellent stand resulted and the soil was again in condition to play its part in crop growing.

The Dust Bath.

To keep the fowls free from lice during the winter months nothing is so good as the dust bath. Don't think that lice don't multiply in winter, for they do, especially those great gray fellows. Get a box, a barrel, or anything that will hold the dust away in the dry, and now fill it or have the children fill it with road dust. Now is an excellent time, for later the roads will be too damp with the fall rains and heavy night dews to dry out and make much dust. Then when the fowls must be kept confined and the earth is hard and frozen, put some of the dust in the shallow box, set it in the sunshine or light of the poultry house windows, and notice how they enjoy that dust bath. Remember, the dust must be dry and if possible warm it, slightly warm. Chickens will not dust in damp earth in winter time.—Farm Star.

Multiplier Onion.

The old-time "multiplier" onion is not of much importance now. It is a persistent grower and succeeds most anywhere. Sometimes it gets to be little better than a weed. But it had some points in its favor. It had a habit of getting up in the spring at the first opportunity and for a short time was passably good. Its place in the garden could not be filled, even by the earliest of vegetables. It would take care of itself when once planted, and would hold its own against grass and weeds if given an equal opportunity with them. It might yet be given a place in many a garden to the benefit of the owner.

DAIRY NOTES

Cheap Man, Poor Butter.

At one place that I called last summer, the creamery had but four months before passed into the hands of the farmers. They had asked various creamerymen for advice and were told that the most important thing to do was to hire a first-class buttermaker and not allow a few dollars in wages to stand in the way. They, however, were of the opinion that a good enough man could be obtained for $35 or $40 and got a young man for the latter figure. In four months they lost nearly $400 on the butter and the day I got there he had left them after washing up, and when I got there about 7 o'clock in the evening the cream was at a temperature of 70 and had 5½ degrees of acidity—plenty ripe enough to churn. There was no water in the glass on the boiler and no water in the tank, the pump was broken, and the churn, which was a new one, was in a very bad condition. I got some ice and cooled the cream down and stayed two days breaking in a new man, who, I am pleased to say, has been having good success, some of the credit for which may be due to his wife, who works in the creamery with him.—Prof. J. G. Moore.

Cause of Stringiness in Milk.

Stringiness in milk is caused by fungi which develops in the system of the cow. In an affected cow the temperature is raised one or two degrees above normal. Like most other fungi this does not grow out into filaments in the milk while within the body, but in five or six hours after the milking the surface layers are found to be one dense net-work of filaments. If a needle is dipped in this and lifted the liquid is drawn out into a long thread. Care should be taken in the water supply which is likely to cause stringiness and two drams bisulphite of soda daily until the stringiness disappears is recommended.

Foundation of Dairying.

The motherhood of the cow is the foundation of dairying. This foundation has not been understood in the past, and the mother quality was set at naught. The care and feeding of the mother are things that should receive our first attention, but they have been the things to receive attention last. As soon as the cow is dry it has been the custom to cut down her feed and sometimes to let her go with only hay and a poor quality of hay at that. This is not a treatment that is likely to develop the calf within her or to improve the milking qualities of the cow herself.

Apples Good for Cows.

One of the theories that have been exploded as worthless is the old imagination that cull apples fed to cows would dry up their milk flow. Another absurd proposition is that sour apples will create sour milk. As a matter of fact apples which are not decayed are the very best condiment for dairy stock and tend to increase rather than diminish the flow of milk. Scientifically speaking the composition of the apple as a feed is: Water, 80.8 per cent; protein, 7 per cent; carbohydrates and fat, 18.2 per cent.

Avoid Mongrel Bulls.

A farmer can afford to pay $5 for the service of a thoroughbred bull than to have the use of a mongrel bull for nothing. He can have a grade calf of the highest excellence; if a female, she would sell for twice what a heifer by a mongrel bull would bring. If a male, it would bring one-third more as veal, and if raised for beef, would bring nearly double what the mongrel steer would bring, and do it in the first cross.—Clark Bell in Country Gentleman.

POULTRY

Egg Yields of Hens.

We speak of hens laying from 150 to 200 eggs per year, and the man that never takes an account of his egg yield fondly imagines that the hens in his flock are producing at least 150 eggs each annually. If he would keep an account with his hens he would find that he was being deceived and that there were so many hens that were doing little that the average production falls below the 100 mark. The writer was treated to a surprise of this kind the first year he kept an account and by knowing what hens lay the eggs it is possible to eliminate the poor layers and have ultimately a flock of good layers. Yet the process is not so easy as might be supposed, as we must correct the breeding inclinations rather than do the work with individual layers. Thus when we find a cow that gives a good deal of rich milk we can keep her for a dozen years, but with the hen that is a good layer we have to depend on her progeny because few hens are profitable when they get old.

Feeding Geese.

The bill of the goose and duck is designed for the partaking of larger substances than are relished by the hen, and they do not confine their diet to a very limited variety. Geese will eat corn and oats, but food of a more bulky character is preferred. Their livers are large, proportionately, and they have very large digestive capacity. They prefer grass, especially clover, and some weeds, such as purslane, are delicacies. Ground grain moistened with milk is excellent in the early part of the year, and a little ground meat added is always of advantage. This ground grain may be oats, corn, bran or middlings. Once a day on grain, with scalded clover at night, is sufficient. During favorable seasons turn ducks and geese on grass, and give no other food. Too much grain prevents eggs from hatching.

As to the Quality of Eggs.

Many people imagine that a brown-shelled egg is better than one with a white shell. This is purely imagination, and the only way to test the richness of an egg is to break it and look at the yolk. The deep orange yolks are the best and the pale yellow ones the poorest. City hens or those which are badly fed and whose runs and roosts are poorly ventilated and badly cleaned lay the pale yellow eggs. Those which live in the country lay the rich orange ones, as do all wild birds. Anaemic eggs contain less iron than rich ones, and are far less nutritious; but there is only one way to test an egg's quality, and that is to break it.

Cracked Corn.

Corn is cracked simply for concenience of feeding to chicks. It is best to allow the gizzard to reduce it. Whole corn contains about 11 per cent of protein, 5 per cent of fat, 70 per cent of starch, 2 per cent of crude fiber and 1 1-2 per cent of mineral matter. The rest is water. There is no difference in whole or cracked corn, the loss of fine material being some of the starch, and the flinty matter of the outer skin, which is silicious and of no value. Cracking the corn only reduces it in size, otherwise the composition of the corn remains unchanged, though the finer it is cracked the greater the loss.—Farm and Fireside.

Don't feed corn, except, perhaps, occasionally, until the cold weather sets in. Then feed it every night. If parched occasionally the hens will enjoy the change.

HORTICULTURE

Pruning Two-Year-Old Vines.

After the vines have made two summers' growth they will be old enough that they may safely be allowed to produce some fruit. In pruning a vine of fruiting age the following points should be kept in mind: The fruit is produced on shoots which start in spring from the new wood that formed the season before, and it is best that this new cane which formed the season before be attached to wood only one year older than itself. It is desirable, then, to keep the bearing wood as near the root system as possible by annually cutting back the vines. It is also well to produce two new shoots from near the ground each year which are not allowed to produce any fruit the year they are formed, but which will be retained as the bearing canes for the subsequent year. Keeping these points in mind, the pruning of the bearing vine should be as follows: First, select the two new strong shoots nearest the roots of the vine and cut them back to short spurs containing three buds each. These short spurs are for the purpose of producing the bearing wood for the succeeding year. If fruit forms on the canes produced from these spurs the first year it should be pinched off. As soon as these two spurs have been cut back select the next two strong canes above them as fruiting canes for the current year and cut each of them back to three or four feet in length. After being pruned then the wood of the vine is restricted to the two short spurs near the ground and to the two fruiting canes of new wood above the spurs. If these two fruiting canes contain side branches during the winter these side branches should be cut off at the time of pruning.—Prof. J. C. Whitten.

Pumpkins as Feed.

Results obtained by the Vermont station show that pumpkins compare fairly with silage for feeding dairy cows. The pumpkins were cut and fed with the seed. No harm resulted to the cows and the quantity of the milk was not affected. The Pennsylvania station also reports satisfactory results from using pumpkins in supplementing failing pasturage, near the close of the grazing season. Analyses and feeding tests made by that station show that in protein content the pumpkin does not equal the carrot or mangel, but in all these products protein is comparatively insignificant, so that none of them are much esteemed except for succulency. The pumpkin's value for mixing with dry feed in compounding feeding rations is therefore apparent, and its use does not taint milk and butter, which nearly always follows the feeding of turnips and carrots.

Early Tomato Plants.

After taking no end of pains with tomato plants, starting them in the hotbed, setting out in cold frames, watching and caring for them through the vicissitudes of spring, it is humiliating to find that some of those which were self-seeded in the garden bore fruit nearly as early as those raised at the cost of so much trouble. Then, too, how productive they are! Varieties are now so early that they do fairly well when grown by open air culture, even in the short Northern summers. However, when the spring is late it is safer to have the plants in the frame. Yet there is no need to despair of this fruit, even though the seed must be sown in the open ground.

The grape is one of the most desirable fruits for the home. If it is properly taken care of it will grow on almost any soil that will produce good farm crops.